

AMENDMENT TO THE CLAIMS

Please **AMEND** claims 2-7 and 9-13 as follows.

Please **CANCEL** claims 8, 14, 15, 17, 19, and 20.

Please **ADD** new claims 21-23 as follows.

A copy of all pending claims and a status of the claims is provided below.

1. (canceled)

2. (currently amended) A method of photoresist trimming, comprising the steps of:

arranging an opaque layer on a substrate;

arranging a photoresist layer on the opaque layer;

developing the photoresist layer to form a trench in the photoresist layer, wherein the trench comprises a sidewall having a resist foot;

mixing a trimming gas comprising O₂ and one of CO₂, SO₂, and NO₂; and

applying the trimming gas comprising O₂ and one of CO₂, SO₂, and NO₂ to selectively remove the resist foot, such that the sidewall is substantially perpendicular to an upper surface of the opaque layer after the applying.

~~forming a resist foot in a trench; and~~

~~removing the resist foot found in the trench during a trimming process, wherein the trimming process comprises ionizing a portion of a mixture of gases comprising O₂ and at least one other oxide gas to form an etchant for the trimming process.~~

3. (currently amended) The method of claim 2, wherein the mixing and the applying comprise mixture of gases comprises any of at least CO₂, SO₂ and NO₂ formed by mixing during a plasma etching process.

4. (currently amended) The method of claim 2, wherein ~~the trimming process is performed on a mask and~~ an upper surface of the ~~mask~~ photoresist layer is resistant to etching.

5. (currently amended) The method of claim 4, further comprising polymerizing an upper surface of the ~~mask~~ photoresist layer.

6. (currently amended) The method of claim 3, further comprising providing a barrier on an upper surface of the ~~mask~~ photoresist layer derived from an oxide gas.

7. (currently amended) The method of claim 3, further comprising arranging a carbon barrier on an upper surface of the ~~mask~~ photoresist layer.

8. (canceled)

9. (currently amended) The method of claim 2, wherein ~~the mixture of gases comprising trimming gas comprises~~ O₂ and one of CO₂, SO₂, and NO₂ at least one other oxide gas in a ratio ranging from about 1:50 to 50:1.

10. (currently amended) The method of claim 2, ~~further comprising forming a mixture of gases comprising~~ wherein the trimming gas comprises O₂ and one of CO₂, SO₂, and NO₂ at least one other oxide gas in a ratio ranging from 1:10 to about 10:1.

11. (currently amended) The method of claim 10, ~~further comprising forming a mixture of gases comprising wherein the trimming gas comprises~~ O₂ and one of CO₂, SO₂, and NO₂ at least one other oxide gas in a ratio ranging from about 1:3.

12. (currently amended) The method of claim 2, further comprising holding the ~~mixture of gases comprising O₂ and at least one other oxide gas~~ trimming gas at a pressure ranging from about 1 mT to 1000 mT.

13. (currently amended) The method of claim 2, further comprising holding the ~~mixture of gases comprising O₂ and at least one other oxide gas~~ trimming gas at a pressure ranging from about 1 mT to 100 mT.

14. – 20. (canceled)

21. (new) The method of claim 2, wherein the applying forms a hardened layer of the photoresist layer.

22. (new) The method of claim 2, further comprising polymerizing an upper layer of the photoresist layer.

23. (new) The method of claim 22, wherein the applying the trimming gas causes the polymerizing.